### Kansas Department of Agriculture Division of Water Resources

# CLOSURE OF NEW APPLICATION WORKSHEET 2. Status Change Date: 2. Field Office:

1. File Number:	49,539			Change Date:	3. Field Office: <b>02</b>	4. GMD: <b>02</b>		
5. Status:	] Approved	☑ Denied by D	WR/GMD	☐ Dis	miss by Request/Fa	ilure to Return		
6. Enclosures:	Check Valve	N of C Form	☐ Wa	ater Tube	☐ Driller Copy	☐ Meter		
7a. Applicant(s) New to system		Person ID 290 Add Seq# 1	037	7c. Landown New to sy	er(s) vstem [	Person ID Add Seq#		
12927 W 18 HALSTEAD	R PHYLLIS HOLI ST ST D KS 67056-921	6				D		
7b. Landowner(s) New to system		Person IDAdd Seq#		7d. Misc. New to sy	rstem □	Person ID Add Seq#		
8. WUR Correspondence New to system Overlap File (s) Agree ☐ Yes 7a	WUC	Person ID Add Seq# Notarized WUC	Form	⊠ IRR □ STK □ HYD DRG	ter: Changing?  Groundwater REC SED WTR PWR	☐ Surface Wat ☐ DEW ☐ DOM ☐ ART RECHE	☐ MUN ☐ CON RG	
10. Completion Date	e:	_ 11. Perfe	ction Date:		12. Ex	p Date:		
	an Required? ☐ Yes assuring Device? ☐ Y							
					Date Prepared: 8/1 Date Entered: 9た	•		

File No.	49539		15. For	Formation Code: Drainage Basin:					County: Special Us				Jse: Stream:											
16. Poin T MOD DEL ENT	ts of Diversion	Qualif	er	s	T	R		ID	'N		'V	v				d Qua	ed Qu	antity mgy		Rate gpm/cf	Addition	al Quantity af/mgy	Overlap PD Files	
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		-															<u></u>			<del></del>		<del></del>	- N	
18. Stora	ge: Rate			NF	Qua	intity _					ac/ft	Α	dditior	nal Rat	te				NF	Add	itional Qu	uantity	ac/ft	
19. Limita	ation:		a	f/yr at				gpm (				cfs) w	hen co	ombine	ed with	i file n	umber	(s)						_
Limit	ation:		a	f/yr at				gpm (				cfs) w	hen co	ombine	ed with	file n	umber	(s)		-				_
20. Mete	r Required?	Yes 🗌	No	٦	o be ins	stalled	by	· •					_	_ D	ate Ac	cepta	ble Me	eter Inst	alled _			<u> </u>		
21. Plac	e of Use				N	E¼	-1225		NV	V¹/4		# <del></del>	sv	V1/4			S	E1/4		Total	Owner	Chg?	Overlap Files	
MOD DEL	PUSE S	T_R	ID	N V	E NW	SW 1/4	SE ¼	NE 1⁄4	NW 1⁄4	SW 1/4	SE ¼	NE ¼	NW 1/4	SW 1/4	SE ¼	NE ¼	NW ¼	SW 1/4	SE ¼					
DEL 6	7566																							
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Commen	nts:																							

# KANSAS DEPARTMENT OF AGRICULTURE Division of Water Resources

### MEMORANDUM

TO: Files DATE: September 5, 2016

FROM: Alex Whitesell RE: Application, File No. 49,539

Verle Holdeman has filed the above referenced application for a permit to appropriate water for beneficial use, proposing the appropriation of 117 acre-feet of groundwater from one (1) well, for irrigation use in Harvey County.

On March 11, 2016, a copy of the application was sent to GMD No. 2 for recommendation. An extension was granted to the GMD giving until May 31, 2016 to provide a recommendation.

In a letter dated June 23, 2016, the GMD recommended denial of the application due to the application being down gradient of the salt water plume of the Burrton IGUCA. Several other applications have recently been denied in the area.

No additional information has been received from the applicant.

Based on the above discussion and the available information, it is recommended that the referenced application be dismissed.

Alex Whitesell

**Environmental Scientist** 

& WhiteAb

Water Appropriation Program



900 SW Jackson, Room 456 Topeka, Kansas 66612 (785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

September 21, 2016

FILE COPY

VERLE HOLDEMAN 12927 W 1<sup>ST</sup> ST HALSTEAD KS 67056

RE:

Appropriation of Water

File No. 49,539

Dear Mr. Holdeman:

Enclosed is the Findings and Order by the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture, dismissing Application, File No. 49,539 for failure to comply with K.A.R. 5-23-4a & K.A.R. 5-23-4b.

This Order shall become a final agency action, as defined by K.S.A. 77-607(b), without further notice to the parties, if a request for hearing or a petition for administrative review is not filed as set forth below.

Request for Hearing. According to K.A.R. 5-14-3(c), any party who desires a hearing must submit a request within 15 days after the date shown on the Certificate of Service attached to this Order. Filing a request for a hearing will give you the opportunity to submit additional facts for consideration, contest any findings made by the Chief Engineer, or present any other information you believe should be considered in this matter. A timely-filed request for hearing will stay the deadline for requesting administrative review of this Order pending the outcome of the hearing.

Petition for Review. The applicant, if aggrieved by this Order, may petition for administrative review, pursuant to K.S.A. 82a-71 1(c) and K.S.A. 82a-1 90 1(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing. Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, Fax: (785) 564-6777.

If you have any questions, please contact our office. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,

Change Application Unit Supervisor

Division of Water Resources

BAT:ajw Enclosures

pc: Stafford Field Office

Groundwater Management District 2



# KANSAS DEPARTMENT OF AGRICULTURE Jackie McClaskey, Secretary of Agriculture

DIVISION OF WATER RESOURCES

David W. Barfield, Chief Engineer

FINDINGS AND ORDER IN THE MATTER OF THE DISMISSAL OF APPLICATION FILE NO. 49,539

FILE COPY

After due consideration, the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture (hereinafter referred to as the "Chief Engineer"), makes the following findings and order:

### **FINDINGS**

- 1. That on January 19, 2016 the Chief Engineer received an application from Verle Holdeman for a permit to appropriate water for beneficial use, assigned File No. 49,539, proposing the appropriation of 117 acre-feet of groundwater for irrigation use. Information submitted with the application provided the specific location for one (1) well which would be located in the Southeast Quarter of the Southwest Quarter of the Northeast Quarter (SE¼ SW¼ NE¼) of Section 18, more particularly described as being near a point 2,787 feet North and 1,470 feet West of the Southeast corner of said section, in Township 23 South, Range 3 West, Harvey County, Kansas, within the Little Arkansas River drainage basin. The proposed point of diversion is located within the boundaries of the Burrton Intensive Groundwater Use Control Area (IGUCA) in Equus Beds Groundwater Management District No. 2 (GMD No. 2).
- 2. That on March 11, 2016, a copy of the application was submitted to GMD No. 2. An extension was granted on April 18, 2016, giving until May 31, 2016, to provide additional information.
- 3. That in a letter dated June 23, 2016, GMD #2 recommended denial of the application. That based on an approved motion from the District Board on April 13, 2004, all applications with a proposed point of diversion located in the Burrton IGUCA down gradient of maximum contamination areas of the salt water plumes would be denied, which was the case with 49,539.
- 4. That on August 16, 2016, a letter was mailed to the applicant stating that the application did not comply with the conditions of the Burrton IGUCA order, and that the application would be submitted to the Chief Engineer with a recommendation that the pending application be denied and dismissed. The applicant was provided 15 days, until August 31, 2016 to either submit additional information to our office or request additional time, prior to final action on the application.
- 5. That no response of any kind has been received from the applicant as of the August 31, 2016 deadline.
- 6. That the application should be denied and dismissed and its priority forfeited based on the recommendation of GMD No. 2 and for failure to meet the requirements of the Burrton IGUCA order dated June 1, 1984.

#### ORDER

NOW, THEREFORE, It is the decision and order of the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture, that effective the date of this order, in accordance with the law, Application, File No. 49,539, is herewith dismissed and the priority assigned to it is considered to be forfeited.

This Order shall become a final agency action, as defined by K.S.A. 77-607(b), without further notice to the parties, if a request for hearing or a petition for administrative review is not filed as set forth below.

Request for Hearing. According to K.A.R. 5-14-3(c), any party who desires a hearing must submit a request within 15 days after the date shown on the Certificate of Service attached to this Order. Filing a request for a hearing will give you the opportunity to submit additional facts for consideration, contest any findings made by the Chief Engineer, or present any other information you believe should be considered in this matter. A timely-filed request for hearing will stay the deadline for requesting administrative review of this Order pending the outcome of the hearing.

Petition for Review. The applicant, if aggrieved by this Order, may petition for administrative review, pursuant to K.S.A. 82a-711(c) and K.S.A. 82a-1901(a). The petition must be filed within 30 days after the date shown on the Certificate of Service attached to this Order and must set forth the basis for the review, unless stayed by the timely filing of a request for hearing.

Any request for hearing or petition for administrative review shall be in writing and shall be submitted to the attention of: Chief Legal Counsel, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502, Fax: (785) 564-6777.

Ordered this Other day of September, 2016, in Topeka, Shawnee County, Kansas.

Lane P. Letourneau, P.G.

Program Manager

Water Appropriation Program

Division of Water Resources Kansas Department of Agriculture

State of Kansas )
) SS
County of Shawnee )

The foregoing instrument was acknowledged before me this day of the day of th

DANIELLE WILSON
My Appointment Expires
August 23, 2020

**Notary** Public

### **CERTIFICATE OF SERVICE**

On this Jet day of September, 2016, I hereby certify that the foregoing Dismissal of Application, File No. 49,539, dated September 30, 2016, was mailed postage prepaid, first class, US mail to the following:

VERLE HOLDEMAN 12927 W 1<sup>ST</sup> ST HALSTEAD KS 67056

With photocopies to:

Division of Water Resources Stafford Field Office

Groundwater Management District No. 2

Division of Water Resources



### KANSAS DEPARTMENT OF AGRICULTURE

Name of Applicant (Please Print): Verle Holdeman

Jackie McClaskey, Secretary of Agriculture

#### **DIVISION OF WATER RESOURCES**

David W. Barfield, Chief Engineer

File Number 49,539This item to be completed by the Division of Water Resources.

# APPLICATION FOR PERMIT TO APPROPRIATE WATER FOR BENEFICIAL USE

Filing Fee Must Accompany the Application (Please refer to Fee Schedule attached to this application form.)

WATER RESOURCES
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JAN 1 9 2016

1:03 KS DEPT OF AGRICULTURE

To the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture, 1320 Research Park Drive, Manhattan, Kansas 66502:

	City: Halstead		State <u>ks</u> Z	Zip Code 67056
	Telephone Number: (620	) 345-6803		
2.	The source of water is:	☐ surface water in	(stream	1
	OR	groundwater in Little Ar	rkansas River Basin - Equus Beds Aquifer (drainage ba	,
	when water is released from	n storage for use by water ate we receive your applica	ws established by law or may assurance district members. If ation, you will be sent the appro	be subject to administration your application is subject to
3.	The maximum quantity of v	water desired is 117	acre-feet OR	_ gallons per calendar year,
	to be diverted at a maximu	m rate of 1000 g	gallons per minute OR	cubic feet per second.
	Once your application has requested quantity of water maximum rate of diversion	been assigned a priority, under that priority numbe and maximum quantity o	, the requested maximum rate er can <u>NOT</u> be increased. Plea of water are appropriate and re ater Resources' requirements.	se be certain your requested
4.	Once your application has requested quantity of water maximum rate of diversion	been assigned a priority, under that priority numbe and maximum quantity o ent with the Division of Wa	, the requested maximum rate er can <u>NOT</u> be increased. Pleas of water are appropriate and re ater Resources' requirements.	se be certain your requested
4.	Once your application has requested quantity of water maximum rate of diversion project and are in agreeme	been assigned a priority, under that priority numbe and maximum quantity o ent with the Division of Wa	, the requested maximum rate er can <u>NOT</u> be increased. Pleas of water are appropriate and re ater Resources' requirements.	se be certain your requested
4.	Once your application has requested quantity of water maximum rate of diversion project and are in agreeme	been assigned a priority, under that priority numbe and maximum quantity oent with the Division of Wa	, the requested maximum rate er can <u>NOT</u> be increased. Pleas of water are appropriate and re ater Resources' requirements. use intended):	se be certain your requested easonable for your proposed
4.	Once your application has requested quantity of water maximum rate of diversion project and are in agreeme.  The water is intended to be (a)  Artificial Recharge	been assigned a priority, under that priority numbe and maximum quantity on the maximum distribution of Ware appropriated for (Check up (b) Irrigation	the requested maximum rate er can <u>NOT</u> be increased. Pleas of water are appropriate and re ater Resources' requirements. use intended): (c) □ Recreational	se be certain your requested easonable for your proposed  (d)   Water Power
4.	Once your application has requested quantity of water maximum rate of diversion project and are in agreeme.  The water is intended to be (a)  Artificial Recharge (e)  Industrial	been assigned a priority, under that priority number and maximum quantity of ent with the Division of Water appropriated for (Check up (b) Irrigation (f) Municipal (j) Dewatering	the requested maximum rates of can NOT be increased. Pleased water are appropriate and relater Resources' requirements.  (c) □ Recreational  (g) □ Stockwatering  (k) □ Hydraulic Dredging	se be certain your requested easonable for your proposed  (d)   Water Power  (h)   Sediment Control

<b>5</b> .	The	location of the proposed wells, pump sites or other works for diversion of water is:	
	Note	For the application to be accepted, the point of diversion location must be described acre tract, unless you specifically request a 60 day period of time in which to locate to specifically described, minimal legal quarter section of land.	to at least a 10 the site within a
	(A)	One in the <u>SE</u> quarter of the <u>SW</u> quarter of the <u>NE</u> quarter of Section <u>18</u>	, more particularly
		described as being near a point 2787 feet North and 1470 feet West of the Southe	· · · · · · · · · · · · · · · · · · ·
10.0		section, in Township 23 South, Range 3W East/West (circle one), Harvey	_ County, Kansas.
	(B)	One in the quarter of the quarter of the quarter of Section	. more particularly
		described as being near a point feet North and feet West of the Southe	
		section, in Township South, Range East/West (circle one),	
	(C)	One in the quarter of the quarter of the quarter of Section	, more particularly
		described as being near a point feet North and feet West of the Southe	east corner of said
		section, in Township South, Range East/West (circle one),	_ County, Kansas.
	(D)	One in the quarter of the quarter of the quarter of Section	, more particularly
		described as being near a point feet North and feet West of the Southe	•
		section, in Township South, Range East/West (circle one),	_ County, Kansas.
	four v	ttery of wells is defined as two or more wells connected to a common pump by a manifold wells in the same local source of supply within a 300 foot radius circle which are being on exceed a total maximum diversion rate of 800 gallons per minute and which supply we bution system.	perated by pumps
6.	The	owner of the point of diversion, if other than the applicant is (please print):	
	vene	and Phyllis Holdeman, 12927 W 1st St. Halstead, KS 67056  (name, address and telephone number)	
		(name, address and telephone number)	
	lando	must provide evidence of legal access to, or control of, the point of diversion from the owner's authorized representative. Provide a copy of a recorded deed, lease, easement this application. In lieu thereof, you may sign the following sworn statement:	
		I have legal access to, or control of, the point of diversion described in this applicati landowner or the landowner's authorized representative. I declare under penalty of per foregoing is true and correct.  Executed on/ S, 20_/S  Applicant's Signature	on from the jury that the
	Failu	re to complete this portion of the application will cause it to be unacceptable for filing and sturned to the applicant.	are the landowner. the application will
7.	The p	proposed project for diversion of water will consist of 1 (one) Well	
	and (	was)(will be) completed (by) 5/1/2016 (number of wells, pumps or date)	•
8.	The f	(Month/Day/Year - each was or will be completed) irrst actual application of water for the proposed beneficial use was or is estimated to be ay/Year)	6/1/2016

File No.

Wil	I pesticide, fertilizer, or other foreign substance be injected into the water pumped from the diversion works?
	Yes ■ No If "yes", a check valve shall be required.
All	chemigation safety requirements must be met including a chemigation permit and reporting requirements.
sub	ou are planning to impound water, please contact the Division of Water Resources for assistance, prior to mitting the application. Please attach a reservoir area capacity table and inform us of the total acres of face drainage area above the reservoir.
	ve you also made an application for a permit for construction of this dam and reservoir with the Division of the Resources? $\Box$ Yes $\Box$ No
•	If yes, show the Water Structures permit number here NA
•	If no, explain here why a Water Structures permit is not required NA
sho sec	e application <u>must</u> be supplemented by a U.S.G.S. topographic map, aerial photograph or a detailed plate owing the following information. On the topographic map, aerial photograph, or plat, identify the center of the option, the section lines or the section corners and show the appropriate section, township and range numbers on please show the following information:
(a)	The location of the proposed point(s) of diversion (wells, stream-bank installations, dams, or other diversion works) should be plotted as described in Paragraph No. 5 of the application, showing the North-South distance and the East-West distance from a section line or southeast corner of section.
(b)	If the application is for groundwater, please show the location of any existing water wells of any kind within $\frac{1}{2}$ mile of the proposed well or wells. Identify each existing well as to its use and furnish the name and mailing address of the property owner or owners. If there are no wells within $\frac{1}{2}$ mile, please advise us.
(c)	If the application is for surface water, the names and addresses of the landowner(s) $\frac{1}{2}$ mile downstream and $\frac{1}{2}$ mile upstream from your property lines must be shown.
(d)	The location of the proposed place of use should be shown by crosshatching on the topographic map, aeria photograph or plat.
(e)	Show the location of the pipelines, canals, reservoirs or other facilities for conveying water from the point of diversion to the place of use.
	A 7.5 minute U.S.G.S. topographic map may be obtained by providing the section, township and range numbers to: Kansas Geological Survey, 1930 Constant, Campus West, University of Kansas, Lawrence Kansas 66047.
poi	t any application, appropriation of water, water right, or vested right file number that covers the same diversior nts or any of the same place of use described in this application. Also list any other recent modifications made existing permits or water rights in conjunction with the filing of this application. ne
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	WATER RESOURCES RECEIVED
	All If y subsur Haw Was seed Als (a) (b) (c) (d) (e) List point to e

JAN 1 9 2016

					File No.	·	
13.	Furnish the following well info					oundwater. If t	he well
	Information below is from:	☐ Test holes	☐ Well as	completed	Drillers	log attached	
	Well location as shown in pa	ragraph No.	(A)	(B)	(C)	(D)	
	Date Drilled	_(	6/23/15				
	Total depth of well		. 2 - /				
	Depth to water bearing forma	ation _	80'				
	Depth to static water level	_	<i>30′</i>				
	Depth to bottom of pump into	ake pipe					
15.	(owner, tenant, agent or otherwise The owner(s) of the property Verle and Phyllis Holo	where the water leman, 12927	7 W 1st St		KS 67056		
		(name, addre	ess and telep	hone number)			
40							
16.	The undersigned states that this application is submitted		et forth above	e is true to the l	pest of his/he	er knowledge a	nd that
16.		in good faith.				_	
16. 	this application is submitted	in good faith. , Kansas,				_	
16. 	this application is submitted in Dated at/\sum_a\submitted in Dated at/\sum_a\submitted in Opplicant Signature	in good faith. , Kansas,				_	

Assisted by Steve Flaherty GMD2 hydrogeologist Date: June 26, 2015

(Agent or Officer - Please Print)

### IRRIGATION USE SUPPLEMENTAL SHEET

File No. 49, 539	
Name of Applicant (Please Print): Verle Holdema	an

1. Please supply the name and address of each landowner, the legal description of the lands to be irrigated, and designate the actual number of acres to be irrigated in each forty acre tract or fractional portion thereof:

Landowner of Record NAME: Verle D. and Phyllis A. Holdeman

ADDRESS: 12927 W 1st St. Halstead, KS 67056

	т	Ъ		NI	Ε1/4			NV	V1⁄4			sv	V1/4			SE	E1/4		TOTAL
S	l 	R	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	TOTAL
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Landowner of Record NAME:

ADDRESS:

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	1	R	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	TOTAL
										_		-				L			

Landowner of Record NAME: \_\_\_\_\_

ADDRESS:

 T	-		NI	Ε1/4			NV	V1/4			sv	V1/4			SE	Ε1/4		TOTAL
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JAN 1 9 2016

Page 1 of 2

a.		soils in the field(s) and their			
		oil ame	Percent of field (%)	Intake Rate (in/hr)	Irrigation Design Group
	Lady Smit	h Silt Clay Loam	26	<u>0.0-0.06</u>	Group
		ne sandy loam	<u>74</u>	0.06-0.2	
		otal:	100 %		
b.	Estimate the	e average land slope in the fie	eld(s):	<u>0-2</u> %	
	Estimate the	e maximum land slope in the	field(s):	%	
c.	Type of irrig	gation system you propose to	use (check one):		
		_	-	- LEPA	
	<del></del>	avity system (furrows)		em (borders)	•
	Other, pleas	e describe:			
d.	System desi	gn features: be how you will control tailv	vater: Will schedu	le and apply irrigation	on to eliminate run-off
d.	i. Descri	-	vater: Will schedu	le and apply irrigation	on to eliminate run-off
d.	i. Descri	be how you will control tails			
d.	<ul><li>i. Descri</li><li>ii. For sp</li></ul>	be how you will control tails	sure at the distribut	ion system: Not yet	<u>available</u> psi
d.	<ul><li>i. Descri</li><li>ii. For sp</li><li>(1)</li></ul>	be how you will control tails rinkler systems:  Estimate the operating pres	sure at the distribut ge design rate? <u>No</u>	ion system: <u>Not yet</u> t yet available	<u>available</u> psi _gpm
d.	<ul> <li>i. Descri</li> <li>ii. For sp</li> <li>(1)</li> <li>(2)</li> </ul>	be how you will control tails rinkler systems:  Estimate the operating pres What is the sprinkler packa	sure at the distribut ge design rate? No	ion system: Not yet t yet available e the sprinkler throw	<u>available</u> psi _gpm
d.	<ul> <li>i. Descri</li> <li>ii. For sp</li> <li>(1)</li> <li>(2)</li> </ul>	be how you will control tails rinkler systems: Estimate the operating pres What is the sprinkler packa What is the wetted diamete	sure at the distribut ge design rate? <u>No</u> r (twice the distance stem? <u>Not yet avai</u>	ion system: Not yet t yet available e the sprinkler throw lable feet	<u>available</u> psi _gpm
d.	<ul> <li>i. Descri</li> <li>ii. For sp</li> <li>(1)</li> <li>(2)</li> <li>(3)</li> <li>(4)</li> </ul>	be how you will control tails rinkler systems:  Estimate the operating pres What is the sprinkler packa What is the wetted diamete the outer 100 feet of the sys	sure at the distribut ge design rate? No r (twice the distance stem? Not yet avai e sprinkler package	ion system: Not yet t yet available e the sprinkler throw lable feet design information.	<u>available</u> psi _ gpm /s water) of a sprinkler o

You may attach any additional information you believe will assist in informing the Division of the need for your request. Page 2 of 2 43 # 1 ...

request.

1-15-2016 (Date)

Kansas Department of Agriculture **Division of Water Resources** David W. Barfield, Chief Engineer 1320 Research Park Drive Manhattan, Kansas 66502

Re:

Application 49, 539 File No.

Minimum Desirable Streamflow

Dear Sir:

I understand that a Minimum Desirable Streamflow requirement has been established by the legislature for the source of supply to which the above referenced application applies.

I understand that diversion of water pursuant to this application will be subject to regulation any time Minimum Desirable Streamflow requirements are not being met.

I also understand that if this application is approved, there could be times, as determined by the Division of Water Resources, when I would not be allowed to divert water. I realize that this could affect the economics of my decision to appropriate water.

I am aware of the above factors, and with the knowledge thereof, request that the Division of Water Resources proceed with processing and approval, if possible, of the above referenced application.

Signature of Applicant

State of Kansas

) ss

I hereby certify that the foregoing instrument was signed in my presence and sworn to before me this 15th day of January, 2016.

Katherine Cecilia Reimer **NOTARY PUBLIC** STATE OF KAN My Appt. Exp.

My Commission Expires:

9/17/2016

WATER RESOURCES RECEIVED

JAN 1 9 2016 SCANNED KS DEPT OF AGRICULTURE

# MINIMUM DESIRABLE STREAMFLOW FORM TO BE USED WHEN APPLICABLE WHEN FILING AN APPLICATION FOR PERMIT TO APPROPRIATE WATER FOR BENEFICIAL USE

The Kansas Legislature has established minimum desirable streamflows for the streams listed below. If your proposed diversion of water is going to be from one of these watercourses or adjacent alluvial aquifers, please complete the back side of this page and submit it along with your application for permit to appropriate water.

Arkansas River
Big Blue River
Chapman Creek
Chikaskia River
Cottonwood River
Delaware River
Little Arkansas River
Little Blue River
Marais des Cygnes River
Medicine Lodge River

Mill Creek (Wabaunsee Co. area)

Neosho River

Ninnescah River
North Fork Ninnescah River
Rattlesnake Creek
Republican River
Saline River
Smoky Hill River
Solomon River
South Fork Ninnescah
Spring River
Walnut River
Whitewater River

### Wells Within 1/2 mile

#1 Domestic well Ginger and Brian Bauer PO Box 181 Burrton, KS 67020-0181

#2 Domestic well Albert and Pamela Polk 826 N Wheat State Road Burrton, KS 67020

#3 Domestic well Calvin and Earline Polk Trust 7 8<sup>th</sup> Edgemore Hutchinson, KS 67502-5644

#4 Domestic well Jerome & Patricia Bruce 715 N. Wheat State Road Burrton, KS 67020

> WATER RESOURCES RECEIVED

> > JAN 1 9 2016

SCANNED KS DEPT OF AGRICULTURE

### **IRRIGATION TEST WELL**

Driller & Assistant: LOGAN AND TYLER	Date: 6/23/2015
CUSTOMER: Verle Holdeman 620-345-6803 (292)	1 W. 1st HALSTEAD KS. 67056
LOCATION: 1 mile west and 1 mile north of Burrton, KS	
□ Screen 2-1/2" □ Holeplug   □ Casing 2-1/2" □ Quarters   □ Couplings, 2-1/2" □ Water   □ End Caps, 2-1/2" □ Lime   □ Gravel Pack □ Drilling Mud	☐ Gas & Oil - W.T. ☐ 6" or 5" Liner if needed ☐ 3/4" Polyethylene ☐ Solvent & Glue ☐ 2-1/2" PVC Tee ☐ Water Sample Bottle ☐ 5" & 6" Bits ☐ Inspection Sheet ☐ Packing
Depth: Formation:	Well Information:
0-3 top soil	Est. production: 300-10(50) cm
4 Clay savey	Casing depth: $\land = 9 \land$
21-31 CLAY DAN	Screen depth: 90-/10
31-36 SAMO Fire-modern	Slot size: SAN CUA
36-71 Clay Geen w/ small of	
71-75' SAND FINE	Number of bags: 2
75'-80' Clay GREY	Nearest Contamination: ADMG
80-114 SAND FINE to med-	within /4 mile
114-125 C/Ay BROWN	Maintenance & Safety:
	Notes:
Directions:	L
Latitude: 38.0510061 N decimal	degrees (ex. 38.881796)
Longitude -97.6891243\$ W decima	
Datum: ☐ NAD27 ☑ NAD83 ☐ WGS84	
1461	
St 1/4 St 1/4 SW 1/4 Nt 1/4	\$ 8 × 1 70 /ft. Well
Sec. 18 T 23 R 3 K/W	\$ 50 /Grout
County HARVEY	\$ Nove /Test Pumping
<u> </u>	\$ 75 <sup>63</sup> /Water Sample
	\$ Now Mobilization/Travel
	Contract Received: 6/17/15
W X E	1122
"	Invoice #: 1137
	Date Mailed:
	Well Data: Access: WATER RESOURCES
S	Materials: Incent: N/A RECEIVED

Date Received: 06/26/2015

Date Reported: 07/01/2015

35.00

Total Fee:



1000 Corey Road P.O. Box 886 Hutchinson, KS 67504-0886 620-665-5661

FAX: 620-665-0559 TOLL FREE: 877-464-0623 www.sdklabs.com

Sample # 3233.15

Sample: Water Verle Holdeman well

Other ID: 6/24/2015

PETERSON MCNETT DRILLING

PO BOX 207

LINDSBORG, KS 67456

### **ANALYSIS**

	Dry Basis	As Received	
++pH - SM 4500-H+ B		7.79	s.u.
++Chloride - SM 4500-Cl B		9.99	mg/L
++Total Hardness - SM 2340B		178	mg/L
++Nitrate-Nitrogen - SM 4500-NO3 D		Less than 1.0	mg/L
++Calcium - SM 3111B		59.50	mg/L
++Magnesium - SM 3111B		7.13	mg/L
++Sodium - SM 3111B		22.10	mg/L
++Sulfate - SM 4500 SO4 E		50.00	mg/L
% Sodium		25.00	%
SAR-Sodium Absorption Ratio		0.719	s.u.
++Electrical Conductivity - SM 2510B		364	umhos/cm
TDS-Total Dissolved Solids - Calculated		258	mg/L
Irrigation Quality Rating		AS FOLLOWS	
Light Soil -Salinity Hazard		Low	
Light Soil - Sodium Hazard		Low	
Medium Soil -Salinity Hazard		Low	
Medium Soil -Salinity Hazard	RRESOURCES	Low	
Heavy Soil -Salinity Hazard	RECEIVED	Low	
Heavy Soil -Sodium Hazard	4	Low	
General Comment:	N 1 9 2016	Excellent to Good	
#0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			

<sup>\*\*</sup>Sample receipt temperature = 22.4 degrees C.

IS DEPT OF AGRICULTURE

<sup>\*\*</sup>Sample beyond hold time for pH.

<sup>\*\*</sup>No sample time listed.

Water Rights and Points of Diversion Within 2.00 miles of point defined as: 2787 ft N and 1470 ft W of the SE Corner of Section 18, T 23S, R 3W

Located at: 97.688760 West Longitude and 38.050851 North Latitude

GROUNDWATER ONLY

=====	=======		====	======	=====	===	===:	===:	====	=====				=====	===:	=====			====		
File	Number	Use	ST	SR Dist	(ft)	Q4	Q3	Q2	Q1	FeetN	FeetW	Sec	Twp	Rng	ID	Batt	Auth_Quan	Add_Quan	Unit		u 2
A	17756 00	MUN	NK	G	7236		NW	NW	NW	5211	5223	16	23	3W	4		139.50	139.50	AF	903 -	45
A	24585 00	IRR	NK	G	9469		NC	E2	SW	1322	2660	16	23	ЗW	5		233.00	233.00	AF	,	
A	28063 00	IRR	NK	G	6813					3850	50	17	23	ЗW	1		27.00	27.00	AF	total	pricr.
A	31654 00	IRR	NK	G	8964		SW	SE	SW	324	3524	9	23	3W	3		4.50	4.50	AF		مماسد :
A	37108 00	MUN	LR	G	7236		NW	NW	NW	5211	5223	16	23	ЗW	4		66.90	66.90	AF	appropr	iations
A	44110 00	IRR	NK	G	4716		NW	SE	NW	3875	3576	19	23	ЗW	3		133.00		AF		
A	44110 00	REC	NK	G	4716		NW	SE	NW	3875	3576	19	23	3W	3		31.00	31.00	AF		
A	45629 00	IRR	NK	G	4605		NW	SW	NW	3730	5241	20	23	3W	2	G 2	153.00	153.00	AF		
Same					4353		SW	NW	NW	4000	5235	20	23	3W	3	В 2					
Same					4858		NW	SW	NW	3461	5247	20	23	ЗW	4	В 2					
A	46774 00	IND	HK	G	8663		NC	NE	SE	1915	660	20	23	3W	5		84.33	84.33	AF		
A	49117 00	IRR	GY	G	6134		NE	NE	SE	2500	650	17	23	ЗW	3		31.20	31.20	AF		
A	49539 00	IRR	AY	G	0		SE	SW	NE	2787	1470	18	23	3W	2		117.00	117.00	AF		
T 20	079061 00	HYD	GY	G	8663		NC	NE.	SE	<del>- 1915</del> -	660	20	23	3W	5		220.00	220:00	AF		

\_\_\_\_\_\_\_

Total	Net Quant:	ities Au	thor	ized:	Direct	Storage
Total	Requested	Amount	(AF)	=	117.00	.00
Total	Permitted	Amount	(AF)	=	335.53	.00
Total	Inspected	Amount	(AF)	=	66.90	.00
Total	Pro_Cert	Amount	(AF)	=	.00	.00
Total	Certified	Amount	(AF)	=	721.00	.00
Total	Vested	Amount	(AF)	=	.00	.00
TOTAL	AMOUNT		(AF)	=	1240.44	.00

An  $\star$  after the source of supply indicates a pending application for change for the file number.

An  $\star$  after the ID indicates a 15 AF exemption was granted for the file number.

A "G" in the Batt column indicates the GEO CTR of a battery. A "B" indicates a well in the battery. The number in the Batt column is the number of wells in the battery.

Water Rights and Points of Diversion Within 2.00 miles of point defined as:

97.688760 West Longitude and 38.050851 North Latitude

GROUNDWATER ONLY

WATER USE CORRESPONDENTS:

File Number Use ST SR

A\_\_ 17756 00 MUN NK G

- > CITY OF BURRTON
- > SUPERINTENDENT
- > 203 N BURRTON AVE BOX 100
- > BURRTON KS 67020

>----

- A\_\_ 24585 00 IRR NK G
- > CRC CONSTRUCTORS INC

>

- > 1302 E MORGAN AVE
- > HUTCHINSON KS 67501

>-----

```
A 28063 00 IRR NK G
> TRAVIS G & KRISTY A SCOTT
> 3424 PRAIRIE HILLS DR
> HUTCHINSON KS 67502
>-----
   31654 00 IRR NK G
> LARRY G & RUTH A SMITH
> 21124 NW 12TH ST
> BURRTON KS 67020
>-----
A 37108 00 MUN LR G
> CITY OF BURRTON
> SUPERINTENDENT
> 203 N BURRTON AVE BOX 100
> BURRTON KS 67020
>-----
A 44110 00 IRR NK G
> MARC A BOESE
> 218 S WHEATSTATE RD
> BURRTON KS 67020
_____
A__ 44110 00 REC NK G
> MARC A BOESE
> 218 S WHEATSTATE RD
> BURRTON KS 67020
>-----
A__ 45629 00 IRR NK G
> MARC A BOESE
> 218 S WHEATSTATE RD
> BURRTON KS 67020
>-----
A__ 46774 00 IND HK G
> JERROLD L UNRUH
> FLORENCE ROCK COMPANY
> 13707 NW DIAMOND RD
> NEWTON KS 67114
A 49117 00 IRR GY G
> ROGER & DONNA ORPIN
> 531 N BURMAC RD
> BURRTON KS 67020
>-----
A__ 49539 00 IRR AY G
> VERLE D & PHYLLIS HOLDEMAN
> 12927 W 1ST ST
```

>	HALSTEAD KS 67056
>	
T_	_20079061 00 HYD GY G
>	JERROLD L UNRUH
>	FLORENCE ROCK COMPANY
>	13707 NW DIAMOND RD
>	NEWTON KS 67114
>	
==:	



Jackie McClaskey, Secretary

900 SW Jackson, Room 456 Topeka, Kansas 66612 (785) 296-3556

Governor Sam Brownback

August 16, 2016

FILE COPY

VERLE HOLDEMAN 12927 W 1<sup>ST</sup> STREET HALSTEAD KS 67056

Re:

Application File No. 49,539

Dear Mr. Holdeman:

We have received a recommendation from the Equus Beds Groundwater Management District No. 2 that the referenced Application for Permit to Appropriate Water for Beneficial Use be denied. This recommendation has been based upon the groundwater management program adopted by the District and approved by the Chief Engineer, Division of Water Resources, Kansas Department of Agriculture.

You must show cause <u>in writing</u> why the referenced application should not be dismissed. If a written response establishing good cause is not received by this office on or before August 31, 2016, 2016, the above referenced appropriations will be dismissed and their priorities forfeited.

If you have any questions, please contact me at (785) 564-6631 or <u>alex.whitesell@ks.gov</u>. If you wish to discuss a specific file, please have the file number ready so that I may help you more efficiently.

Sincerely,

Alex Whitesell

**Environmental Scientist** 

AX WHIL

Water Appropriation Program

pc: Stafford Field Office GMD No. 2

SCANNED

FRED SEILER, PRESIDENT VIN KISSICK, VICE PRESIDENT JEFF WINTER, SECRETARY MIKE MCGINN, TREASURER TIM BOESE, MANAGER THOMAS A. ADRIAN, ATTORNEY



DIRECTORS: DAVID BOGNER ALAN BURGHART JOE PAJOR **BOB SEILER** DAVID STROBERG

## EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2

313 SPRUCE STREET • HALSTEAD, KANSAS 67056-1925 • PHONE (316) 835-2224 • FAX (316) 835-2225 • equusbeds@gmd2.org • www.gmd2.org

June 9, 2016

Verle Holdeman 12927 W. 1st Street WATER RESOURCES RECEIVED

JUN 1 3 2016

KS DEPT OF AGRICULTURE

Re: Water Appropriation Application No. 49539

Dear Mr. Holdeman:

Halstead, KS 67056

The purpose of this correspondence is to advise you that the referenced water appropriation application is scheduled for review at the June 21, 2016, Board of Directors meeting of the Eguus Beds Groundwater Management District. Please note that this meeting date is a change from the District Board of Directors' normally scheduled meeting date of June 14, 2016. Due to a lack of available Board members able to attend, the meeting has been rescheduled to June 21, 2016.

The public meeting begins at 1:00 p.m. and will be held in the Equus Beds Groundwater Management District's conference room at 313 Spruce Street, Halstead, Kansas. A copy of the meeting agenda is enclosed for your information.

Please contact the District if you have any questions or need additional information.

Sincerely,

**EQUUS BEDS GROUNDWATER** MANAGEMENT DISTRICT NO. 2

To Boese

Tim Boese Manager

TDB/db

Enclosure: Agenda

Erin McGrogan, Division of Water Resources, Manhattan Jeff Lanterman, Division of Water Resources, Stafford Jerome T & Patricia A Bruce, nearby well owners Keith & Ginger Bauer, nearby well owners Albert & Pamela Polk, nearby well owners Calvin & Earline Polk Trust, nearby well owners





900 SW Jackson, Room 456 Topeka, Kansas 66612 (785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

April 18, 2016

VERLE D & PHYLLIS HOLDEMAN 12927 W 1ST ST HALSTEAD KS 67056-9216

Re:

Application File No. 49,539

Dear Mr. Holdeman:

This will acknowledge receipt of an email dated April 8, 2016, from Stephen Flaherty, Hydrogeologist, Equus Beds GMD No. 2, in which he stated that the Board of Directors tabled making a decision on your applications. Mr. Flaherty further requested an extension of time until May 31, 2016, to make a recommendation on your applications.

Based upon the request of Mr. Flaherty, the Chief Engineer has extended until May 31, 2016, the time in which to submit a recommendation before final action will be taken on your application.

If additional information is not supplied by the deadline, or any authorized extension of time thereof, the application will be submitted to the Chief Engineer for final action. According to the law, default in supplying the requested information, within the time allowed, shall constitute forfeiture of the priority date and dismissal of the application.

If you wish to request additional time, you must do so in writing, before the period expires. Such a request should state what steps are being taken to supply the requested information.

If you have any questions, please contact our office at, (785) 564-6631. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Alex Whitesell

**Environmental Scientist** 

Water Appropriation Program

AX With

Enclosure(s)

pc: Stafford Field Office

GMD 2

SCANNED

### Whitesell, Alex

From:

Stephen Flaherty <sflaherty@gmd2.org>

Sent:

Friday, April 08, 2016 11:50 AM

To: Subject: Whitesell, Alex 49539 extension

Alex,

Could we have an extension on new app #49539?

This one is in the Burrton IGUCA and will need to go before our board of directors.

I will need to do an investigation on this one and present the findings to our board of directors.

Additionally, we only have board meetings once every month so I will probably need a 60 day extension on this one to be safe.

Thank you,

\*\*\*\*\*\*\*

Stephen Flaherty, Hydrogeologist

Equus Beds GMD No. 2 313 Spruce Street \* Halstead, KS 67056 P: (316) 835-2224 \* F: (316) 835-2225 www.gmd2.org

\*\*\*\*\*\*\*



Jackie McClaskey, Secretary

900 SW Jackson, Room 456 Topeka, Kansas 66612 (785) 296-3556

Governor Sam Brownback

March 11, 2016

EQUUS BEDS GMD NO 2 313 SPRUCE STREET HALSTEAD KS 67056-1925

Re:

Application

File No. 49,539

Dear Sir or Madam:

We are enclosing a copy of the application referred to above which appears to be in proper form.

We are delaying any further action for a period of 15 days from the date of this letter to allow you time to submit your recommendations concerning this application.

Please submit your recommendations within the allotted time, or any authorized extension of time thereof.

If you have any questions, please contact me a 785-564-6631. If you call, please reference the file number so we can help you more efficiently.

Sincerely,

Alex Whitesell

**Environmental Scientist** 

Water Appropriation Program

Enclosure(s)

pc:

Stafford Field Office

SCANNEL

### Keith and Ginger Bauer 931 N Wheatstate Road Box 181 Burrton, Ks. 67020

### Alex,

This letter is to inform you of our desire for you not to grant the application 49,539 in which Verle Holdeman wishes to install an irrigation system. Our reasons to oppose this are:

- 1. We built our house 3 years ago with the intent to live there the rest of our lives. The outside is made of brick and stone. We have to have them sprayed every 5 years to help preserve the stone for years to come. With summer winds from the south the rust water from the overspray getting onto these stones will shorten their lifespan and/or cause us to treat them more often to protect them. This comes at a cost to us of \$5000 per treatment.
- 2. We have outdoor playsets, grills, patio furniture, and pool equipment that will be affected by the overspray as well. This will shorten these items lifespan as well.
- 3. The recent drought has caused our concern over the falling water table. If approved, the irrigation system will undoubtedly lower the water table even further.

We want to be friendly neighbors and hope there is a resolution that is fair to all involved. If you have any questions you can reach us at 620.463.2830 or my cell number is 620.727.3792.

Sincerely

Keith Bauer

## Keith and Ginger Bauer 931 N Wheatstate Road Box 181 Burrton, Ks. 67020

Alex,

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Sincerely

Keith Bauer

WATER RESOURCES
RECEIVED

MAR 07 2016

KS DEPT OF AGRICULTURE

Dear Mr. Whitesell In regardo to File No. 49, 539 asking for a premit to put in an irrigation We have formed our price of ground Divice 1978. We are duyland and tot burles no evant a allotyper mayor we planted. We do not want our farmy our buely hood put in sevepardy by this massive amount of water taken from the area. Set alone putting our domestie well in danger. Shave always wondered why big trigators have the right to use veryones water. This is the second time a new ormer of this piece has asked for

Mis permit. Once again we have to Sjøft Ifr our survival. We were here first. I protest and I protest loudly!

WATER RESOURCES

FEB 2 9 2016 SCANNED 821

826 News Wheat State Burton Fansas

KS DEPT OF AGRICULTURE

## WATER RESOURCES RECEIVED

FEB 2 5 2016

Attn Alex Whitesell REGISONS Oposing 49-539

1 Over Spray with prevailing West + Southwest wind in the summer we would be a direct target 2 Hard water Rust in all overspray stain house + everything it gets on 3 Dry laundry on clothes lines 4 Both House entrances on South Side - Do Not want to De sprayed just to go outside 5) Conscern over long term drought afalling water table with extra water use, had lower water table last year Jeromet + Patricia A Bruce 715 N Wheatstate Rd Burrton Ks 620-727-8328 Thank you for concedering & Bruce

7ile # 49,539 alex Whitesell It was a pleasure to talk to you on the phone 7et, 22 2016, I voiced my concerns them + you said send a letter. So here it is. We went thru this everytime there is a new land owner acquires that section of land. I have farmed for 57 years except for the 3 years I served in the army Infantry 1967, 1968, 1969. My Grandmother was full blooded Shawner. The always said those who irrigate Do not trust in the Creator to provide rain. J don't irrigate, we raise Fruits of

Vegetables There is a Salt water

plume just south of us Pumping

60,000 gal/hre will bring that Salt

water closer causing our personal

water in Jepardy. If this landowner

would use drip irrigation it would so

scaling a whole lot pressible:

1010-1. +hand in a line of the training already there is a Circle Irrigation one mile South of us. When he is using it, you can see my farm Pound drops Why would anyone take my Grandchildren + Great Grandchildrens water Just to have a fast fix to raise a Crop of Corne. We need to get back to raising crops

10	+ in this area without
T.V.	sing water ( wheat + Grain Sorhquen
u	sing walling
	I this well is permitted to be drilled I see a lotoproblems in our romal wells in the near future. phone  1. A. D. La Palle 620-899-8904
X	this well is permitted in
	I see a lato problems in outros
0.0	a smalwells in the near fun
	phone phone
\\ <b>\( \)</b>	All II de PAIAM OUT V CITA
- O	Or all Collins VALVO
	326 n. Wheat State Road
	126 11. Wheat suite 100
	Burton Kansas 67020
	WATER RESOURCES
	RECEIVED
	FEB <b>2</b> 5 2016
	KS DEPT OF AGRICULTURE
	SCANNED
	SCAI.



900 SW Jackson, Room 456 Topeka, Kansas 66612 (785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

February 16, 2016

CALVIN & EARLINE POLK TRUST 78<sup>TH</sup> EDGEMORE HUTCHINSON KS 67502

Re:

Application

File No. 49,539

Dear Sir or Madam:

This is to advise you that Verle Holdeman has filed the application referred to above for permit to appropriate 117 acre-feet of water per calendar year for irrigation use to be diverted at a maximum rate of 1000 gallons per minute from a well or wells located as follows:

one (1) well located in the Southeast Quarter of the Southwest Quarter of the Northeast Quarter (SE¼ SW¼ NE¼) of Section 18, more particularly described as being near a point 2,787 feet North and 1,470 feet West of the Southeast corner of said section, in Township 23 South, Range 3 West, Harvey County, Kansas.

A copy of an aerial photograph depicting the location of the proposed point of diversion is also enclosed. Records in this office indicate that you may have a well or wells in this vicinity and you are notified of receipt of this application in order that you may be fully informed of the proposed location(s) of the applicant's point(s) of diversion and proposed use of water. Consideration will be given to comments or other information which you desire to submit to this office within 15 days from the date of this letter.

If you have any questions, please contact me at (785) 564-6631. If you call, please reference the file number so we can help you more efficiently.

Sincerely,

Alex Whitesell

**Environmental Scientist** 

MAL MAR

Water Appropriation Program

AJW:

Enclosure(s)

pc:

Stafford Field Office

Groundwater Management District No. 2

SCANNED



900 SW Jackson, Room 456 Topeka, Kansas 66612 (785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

February 16, 2016

JEROME & PATRICIA BRUCE 715 N WHEAT STATE ROAD BURRTON KS 67020

Re:

Application File No. 49,539

Dear Sir or Madam:

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Sincerely,

Alex Whitesell

**Environmental Scientist** 

AKK Whoth

Water Appropriation Program

AJW:

Enclosure(s)

pc:

Stafford Field Office

Groundwater Management District No. 2

SCANNED



900 SW Jackson, Room 456 Topeka, Kansas 66612 (785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

February 16, 2016

GINGER & BRIAN BAUER PO BOX 181 BURRTON KS 67020-0181

Re:

Application File No. 49,539

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If you have any questions, please contact me at (785) 564-6631. If you call, please reference the file number so we can help you more efficiently.

Sincerely,

ALC WATE

Alex Whitesell

**Environmental Scientist** 

Water Appropriation Program

AJW:

Enclosure(s)

pc:

Stafford Field Office

Groundwater Management District No. 2

SCANNET



900 SW Jackson, Room 456 Topeka, Kansas 66612 (785) 296-3556

Jackie McClaskey, Secretary

Governor Sam Brownback

February 16, 2016

ALBERT & PAMELA POLK 826 N WHEAT STATE ROAD BURRTON KS 67020

Re:

Application

File No. 49,539

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one (1) well located in the Southeast Quarter of the Southwest Quarter of the Northeast Quarter (SE¼ SW¼ NE¼) of Section 18, more particularly described as being near a point 2,787 feet North and 1,470 feet West of the Southeast corner of said section, in Township 23 South, Range 3 West, Harvey County, Kansas.

A copy of an aerial photograph depicting the location of the proposed point of diversion is also enclosed. Records in this office indicate that you may have a well or wells in this vicinity and you are notified of receipt of this application in order that you may be fully informed of the proposed location(s) of the applicant's point(s) of diversion and proposed use of water. Consideration will be given to comments or other information which you desire to submit to this office within 15 days from the date of this letter.

If you have any questions, please contact me at (785) 564-6631. If you call, please reference the file number so we can help you more efficiently.

Sincerely,

Alex Whitesell

**Environmental Scientist** 

Water Appropriation Program

At whit

AJW:

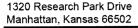
Enclosure(s)

pc:

Stafford Field Office

Groundwater Management District No. 2

SCANNED



Kansas
Department of Agriculture

Phone: (785) 564-6700 Fax: (785) 564-6777 Email: ksag@kda.ks.gov www.agriculture.ks.gov

Sam Brownback, Governor

Jackie McClaskey, Secretary

January 20, 2016

VERLE HOLDEMAN 12927 W 1ST HALSTEAD KS 67056

RE: Application File No. 49539

Dear Sir or Madam:

Your application for permit to appropriate water in 18-23S-3W in Harvey County, was received and has been assigned the file number noted above.

As a matter of record, the Division of Water Resources has on hand a large number of applications awaiting processing. Therefore to be fair to all concerned, and so that we can process those applications on hand in the order they were received, we intend to concentrate on the backlog of applications until the issue is resolved. Once review of your application has begun, we will contact you, if additional information is required.

In accordance with the provisions of the Kansas Water Appropriation Act, a portion of which is included below, the use of water as proposed prior to approval of the application is unlawful. Once approved, compliance with the terms, conditions and limitations of the permit is necessary. Conservation of the water resources of Kansas is required.

Section 82a-728 of the Kansas Water Appropriation Act, provides (a) except for the appropriation of water for the purpose of domestic use, . . . it shall be unlawful for any person to appropriate or threaten to appropriate water from any source without first applying for and obtaining a permit to appropriate water in accordance with the provisions of the Water Appropriation Act or for any person to violate any condition of a vested right, appropriation right or an approved application for a permit to appropriate water for beneficial use.

(b) (1) The violation of any provision of this section by any person is a class C misdemeanor . . .

A class C misdemeanor is punishable by a fine not to exceed \$500 and/or a term of confinement not to exceed one month in the county jail. Each day that the violation occurs constitutes a separate offense.

If you have any questions, please contact me at (785) 564-6634. If you wish to discuss a specific file, please have the file number ready so that we may help you more efficiently.

Sincerely,

Kenneth A. Kopp, P.G.

New Application Unit Supervisor Water Appropriation Program

KAK: DLW

pc: STAFFORDField Office

GMD 2

SCANNED

FRED SEILER, PRESIDENT VIN KISSICK, VICE PRESIDENT JEFF WINTER, SECRETARY MIKE MCGINN, TREASURER TIM BOESE, MANAGER THOMAS A. ADRIAN, ATTORNEY



DIRECTORS:
DAVID BOGNER
ALAN BURGHART
JOE PAJOR
BOB SEILER
DAVID STROBERG

#### **EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2**

313 SPRUCE STREET • HALSTEAD, KANSAS 67056-1925 • PHONE (316) 835-2224 • FAX (316) 835-2225 • equusbeds@gmd2.org • www.gmd2.org

June 23, 2016

RECEIVED

Chief Engineer, Division of Water Resources Attn: Alex Whitesell 1320 Research Park Drive Manhattan, KS 66502

JUN 2 7 2016

KS DEPT OF AGRICULTURE

Re: Application No. 49539 - Verle Holdeman

Dear Mr. Whitesell:

The referenced application was reviewed by the Equus Beds Groundwater Management District No. 2, Board of Directors at the June 21, 2016, meeting. District staff and the applicant presented information regarding the application. A copy of the District's Application Review Information report is enclosed for your information.

Upon review of the information presented and discussed at the meeting, and based on findings that:

- Application no. 49539 proposes the withdrawal of 117 acre-feet at a maximum rate of 1000 gallons per minute for the irrigation of 90 acres from a single well located 2787 ft north and 1470 ft west of the southeast corner of Section 18, Township 23 south, Range 3 west.
- 2. The application complies with the District's well spacing rule and regulation K.A.R. 5-22-2(a).
- 3. The application complies with safe yield Rule and Regulation K.A.R. 5-22-7.
- Four nearby well owners responded with written concerns about application no. 49539. Several phone calls were also received.
- The competency of the uppermost clay layer is unknown and the distribution of underlying clay units are unknown, the test well was not drilled to bedrock.
- Groundwater and the contaminant plume are moving east in the shallow zone of the aquifer and are potentially downgradient of a 600ppm chloride zone.
- 7. Groundwater and the contaminant plume are moving east-northeast in the middle/lower zone of the aquifer. The proposed PD is downgradient of a maximum contamination zone.
- 8. Upconing may affect the plume migration in the middle/lower zone depending upon the competency of the uppermost clay unit identified in the drillers log. The proposed point of diversion also has potential to adversely affect domestic wells downgradient.
- 9. Four houses are within ~800 feet to as close as ~200 ft of the edge of the proposed irrigation pivot and are worried about overspray and negative impacts to water quality and quantity.

It was the decision of the Board of Directors to recommend the application for denial. A District decision may be appealed to the District Board of Directors by submitting a written petition to the District office within 30 days from date of this notification, pursuant to K.A.R. 5-22-12. An appeal petition must state the basis for the appeal and must include information/documentation supporting the appeal.

Please contact the District if you have any questions regarding the District's findings or recommendation.

Sincerely,

EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2

Tim Boese Manager TDB/db

**Enclosure** 

pc:

Verle Holdeman, Applicant, with copy of K.A.R. 5-22-12 Jerome T & Patricia A Bruce, nearby well owners Keith & Ginger Bauer, nearby well owners Albert & Pamela Polk, nearby well owners Calvin & Earline Polk Trust, nearby well owners Jeff Lanterman, Division of Water Resources, Stafford

SCANNED



#### APPLICATION REVIEW INFORMATION

NAME: ADDRESS: Verle Holdeman 12927 W 1<sup>st</sup>. St. Halstead, KS 67056 APPLICATION NO. 49539

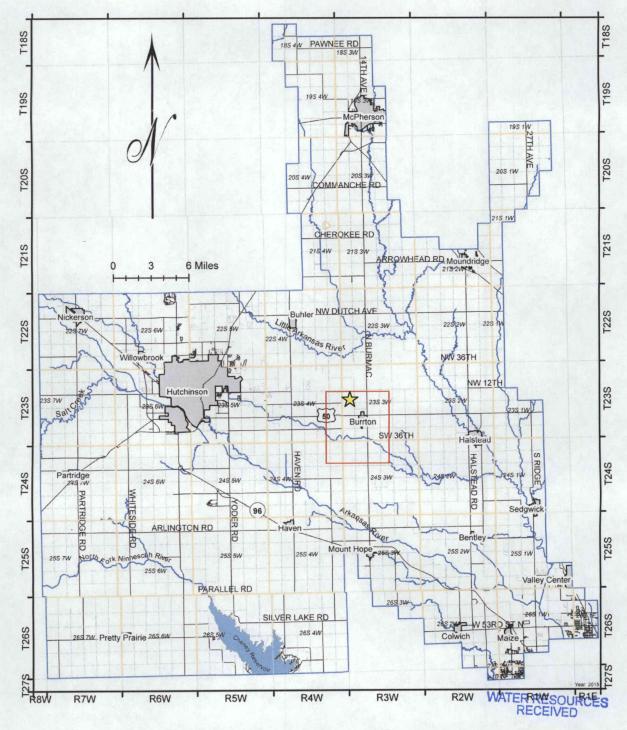
NEW APPL. X

COUNTY Harvey TRACT SE-SW-NE

WELL LOCATION S 18 T 23S R 3W

QUANT 117 AF/Y RATE 1000 GPM

WELL SPACING D>660', ND>1320'



## Burrton Chloride Plume Samples Collected below 120 ft of Land Surface Samples Collected During 2015 Irrigation Season

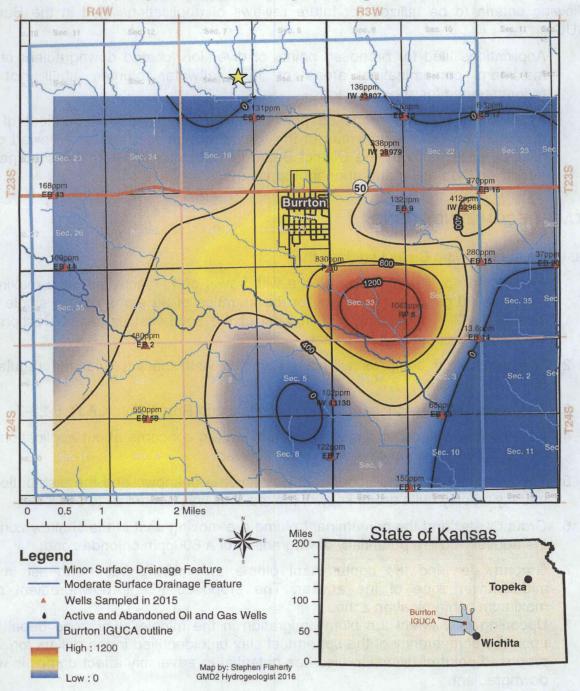


Figure 8. Chloride concentration map showing the spatial distribution of the deep zone of the Burrton Chloride plume. No samples are available for collection in the deep zone near the proposed point of diversion.

WATER RESOURCES
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#### PREVIOUS BOARD ACTION:

On April 10, 2004, the Board of Directors, by approved motion, implemented the following criteria to be utilized for future reviews of applications filed in the Burrton IGUCA:

Applications filed for proposed points of diversion located downgradient of the maximum contamination areas of the saltwater plumes shall **not** be recommended for approval; and

Applications filed for proposed points of diversion located upgradient of the maximum contamination areas of the saltwater plumes shall be reviewed on a case-by-case basis by the District Board of Directors to determine site specific effects on the aquifer and prior appropriations.

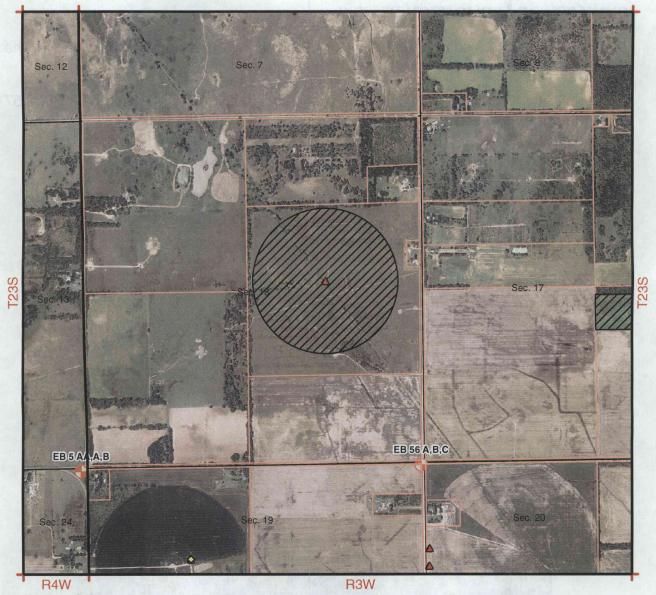
#### STAFF RECOMMENDATIONS:

Based on the following District findings that:

- Application no. 49539 proposes the withdrawal of 117 acre-feet at a maximum rate of 1000 gallons per minute for the irrigation of 90 acres from a single well located 2787 ft north and 1470 ft west of the southeast corner of Section 18, Township 23 south Range 3 west.
- 2. The application complies with the District's well spacing rule and regulation K.A.R. 5-22-2(a).
- 3. The application complies with safe yield Rule and Regulation K.A.R. 5-22-7.
- 4. Four nearby well owners responded with written concerns about application no. 49539. Several phone calls were also received.
- 5. The competency of the uppermost clay layer is unknown and the distribution of underlying clay units are unknown, the test well was not drilled to bedrock.
- 6. Groundwater and the contaminant plume are moving east in the shallow zone of the aquifer and are potentially downgradient of a 600ppm chloride zone.
- 7. Groundwater and the contaminant plume are moving east-northeast in the middle/lower zone of the aquifer. The proposed PD is downgradient of a maximum contamination zone.
- Upconing may affect the plume migration in the middle/lower zone depending upon the competency of the uppermost clay unit identified in the drillers log. The proposed point of diversion also has potential to adversely affect domestic wells downgradient.
- 9. Four houses are within ~800 feet to as close as ~200 ft of the edge of the proposed irrigation pivot and are worried about overspray and negative impacts to water quality and quantity.

Staff recommends that the application be recommend for denial.

WATER RESOURCES RECEIVED



Place of Use Image: Proposed place of use outlined and filled with black angled lines.

ISSUE: Board Review of a new application submitted in the Burrton IGUCA.

#### **TIMELINE OF EVENTS:**

Jan 19, 2016	The applicant filed a new application to irrigate 90 acres in the North Half of the			
	Southeast Quarter and the South Half of the Northeast Quarter in Section 18,			
	Township 23 South, Range 3 West for 117 AF/yr within the Burrton IGUCA			
	(Place of Use Image).			

- May 3, 2016 The applicant was notified by mail that application no. 49539 would be heard at the May 10, 2016 board meeting.
- May 6, 2016

  The applicant was notified by mail that the application would not be heard at the May 10, 2016 board meeting and will be tentatively re scheduled for the June 14<sup>th</sup> board meeting to collect more information on the groundwater gradient in the area of interest.
- Jun 9, 2016

  The applicant was notified by mail that the application will be heard at the June 21, 2016 Board Meeting.

  WATER RESOURCES RECEIVED

#### SUMMARY OF APPLICATION REVIEW:

The application proposes one irrigation well located near the northern boundary of the Burrton IGUCA (Figure 1).

The application complies with the safe yield regulation 5-22-7(a). There are 3000.57 AF/Y of appropriations available under the current safe yield regulation.

#### Equus Beds Groundwater Management Distrcit No. 2

Safe Yield Evaluation #49539 SESWNE (2787'N & 1470'W) 18-23S-03W, Harvey County

Prepared By: Stephen Flaherty Date: 4/8/2016

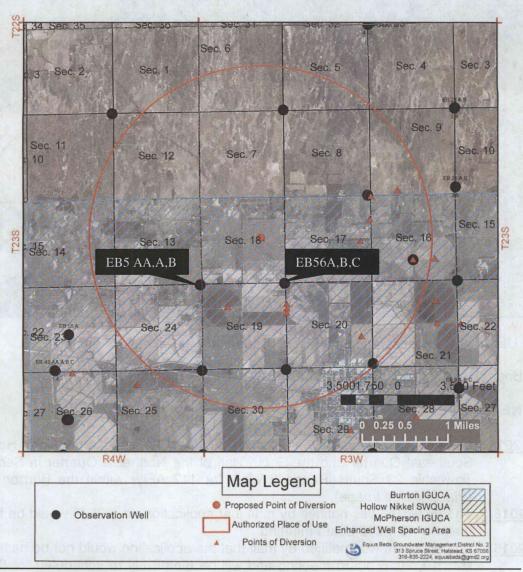


Figure 1. Proposed point of diversion and safe yield. Safe yield prepared on April 8, 2016.

WATER RESOURCES
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CANNED

NEGVIT	PF	ELIMINARY SA	FEYIELD E	VALUATIO	N #49539 Holde	man	<b>的图形</b> 2 图形
	LOCATI	ON: SESWNE (2	787'N & 1	1470'W) 18	-23S-03W, Harv	ey County	
		SPECIA	L USE AR	EA: BURRTO	ON IGUCA		
		EVA	LUATION	DATE:- 4/8	3/2016		
Tot	al Areas: 8,042 a	cres; Area in 3 inch	n discharge	one: 0 acres;	Area in 6 inch disch	narge zone: 8,	042 acres
FILE_ID	WELL_ID	TOWNSHIP	RANGE	SECTION	QUALIFIER	USE	AUTHQUANTITY
A01775600	878	235	03W	16	52115223	MUN	139.5
A02458500	1536	235	03W	16	13222660	IRR	233
A02806300	454	235	03W	17	38500050	IRR	27
A03165400	948	235	03W	9	3243524	IRR	4.5
A03710800	573	235	03W	16	52115223	MUN	66.9
A044110IR	2760	235	03W	19	38753576	IRR	133
A044110RE	2761	235	03W	19	38753576	REC	31
A04562900	3192	235	03W	20	40005235	IRR	0
A04562900	3193	235	03W	20	34615247	IRR	0
A04562900	3094	235	03W	20	37305241	IRR	153
A04677400	3455	235	03W	20	19150660	IND	84.33
A04911700	4221	235	03W	17	25000650	IRR	31.2
A04953900P	4684	235	03W	18	27871470	IRR	117
A20079061	3463	235	03W	20	19150660	HYD	220
Allowable Appropriations 4,021.00			Total Existing Appropriation		1,240.43		
Small User Quantity		0	Non Consumptive Appropriations			220	
Remaining SUC	1	45	Consumptive Appropriations			1,020.43	
Note- Values are in acre-feet				Available .	Appropriations		3,000.57

Table 1. Safe yield results indicate 3000.57 acre-feet of available appropriations at this location.

The application complies with the minimum spacing requirement to non-domestic and domestic points of diversion as specified by the Well Spacing Regulation 5-22-2(a) (Figure 2). DWR received 4 letters and several phone calls from nearby domestic well owner(s) in response to the application (Attachment A).

Nearby Well owners addressed the follow points in their letters:

- 1. Concerned about effects of overspray
  - a. Overspray will hit the houses and yards
  - b. Overspray will negatively affect masonry treatment on house.
  - c. Outdoor playsets, furniture, and pool will be affected by overspray
- 2. Concerned about a falling water table with extra water use.

#### Equus Beds Groundwater Management District No. 2

Spacing Evaluation #49539 SESWNE (2787'N & 1470'W) 18-23S-03W, Harvey County

Prepared By: Stephen Flaherty Date: 4/8/2016

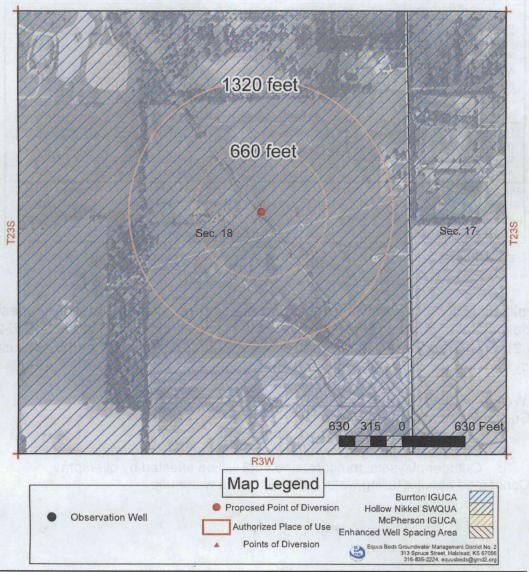


Figure 2. Spacing evaluation at the proposed point of diversion. No non-domestic points of diversion are within 1320 feet of the proposed PD and no domestic wells are located within 660 feet.

WATER RESOURCES
RECEIVED

11 N 2 7 2016

#### HYDROGEOLOGIC INVESTIGATION:

The application is located in an area where oilfield waste product was disposed in pits at land surface with little to no protective measures in the 1940's. According to local accounts, the dark colored brine would channelize in drainage features. Through time, the waste brine slowly infiltrated through the soils and intersected the groundwater table. Today, the contaminant plume is largely a conglomeration of these brines.

The contaminant plume has been outlined by the IGUCA (Intensive Groundwater Use Area) boundary, a 36 square mile geopolitical boundary centered at the intersection of E Illinois Ave. and S Wheat State Rd. (Figure 4). This geopolitical boundary encompasses most of the contaminant plume to date.

The plume is often referred to as the 'Burrton chloride plume'. However, while the 'chloride plume' contains mostly chlorides, there are also other chemicals found in oil field brines which are more harmful to human health and the environment. Other elements found in oil field brines include calcium, barium, iron, and strontium. In this report, it is assumed that where the chloride concentration is high, other petroleum related substances will also be found.

As a result of the 20<sup>th</sup> century oil field activity, some crude oil was lost at land surface and from poor well construction. These contaminants are often called Total Petroleum Hydrocarbons (TPH). Near EB8 (Figure 4), TPH are four times higher than the KDHE Tier 2 standard of 500 ppb in a 2014 quarterly report by APEX Companies, LLC. Groundwater consumers are wise to avoid these harmful contaminants.

Benzene, chromium, mercury, and sulfur intersected the water table from other oil spills. Some contaminants from oil field activity are less dense than water and some are more dense than water. These contaminants will naturally separate into the upper and lower portions of the aquifer. Some liquids do not mix well with water and are called Light Non Aqueous Phase Liquids (LNAPL's) and Dense Non Aqueous Phase Liquids (DNAPL's).

Migration of the plume is advective which means that it generally follows groundwater flow directions. However, the salt rich brines are more dense than the groundwater and will preferentially fall to the lowest confining unit. Interbedded clay lenses and less permeable sediments restrict or retard the vertical and horizontal movement of the chloride plume. Therefore, chloride concentrations change with depth and location. The aquifer in the IGUCA has been divided into three general levels; upper, middle, and lower.

Chloride concentrations in the upper, middle, and lower sand intervals of the aquifer were evaluated around the applicants proposed point of diversion. Identifying the concentration and location of the plume in each sand interval will assist in making wise management decisions to comply with the Goals of the Districts Aquifer Management Program.

WATER RESOURCES
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#### **Water Levels**

District staff have measured water levels in the uppermost zone of the aquifer within 1 mile of the area at two observation wells since 1986. Well EB 56A is approximately 3200 feet downgradient of the proposed point of diversion (Figure 3). Well EB5A is approximately 4700 feet upgradient of the proposed point of diversion.

GMD2 staff collected depth to groundwater measurements in the immediate vicinity of the proposed point of diversion in May 2016. All measurements were collected in the same afternoon.

Groundwater Flow Direction and Potentiometric Surface Contours of the Shallow Aquifer North of Burrton, KS

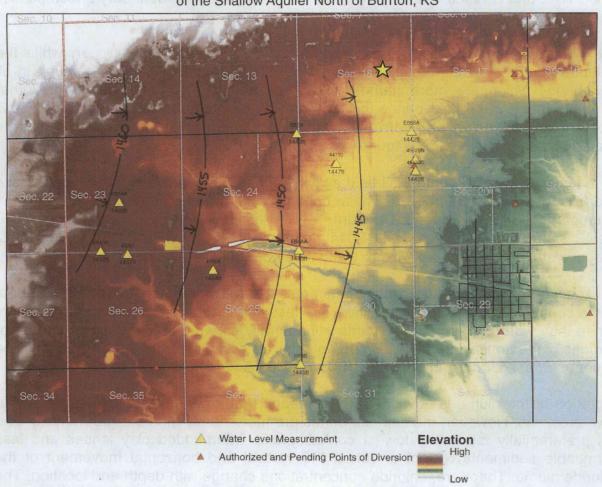
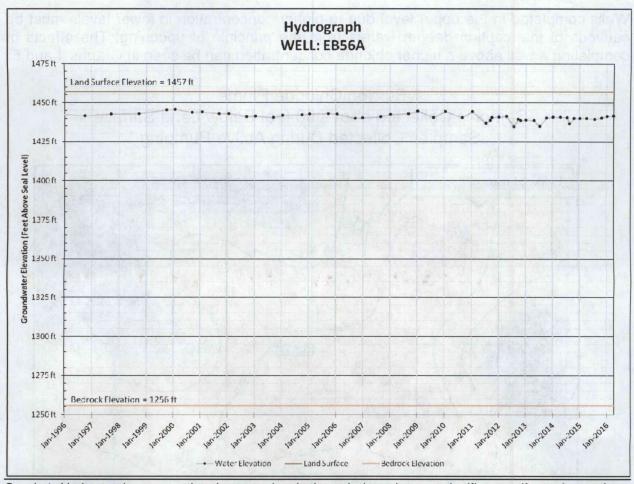


Figure 3. May 2016 groundwater gradient and flow direction. Sampled wells shown by yellow triangles. Groundwater Elevation labeled beside point. Black arrows indicate groundwater flow direction. The groundwater gradient is approximately 14 feet per mile to the east southeast.



Graph 1. Hydrograph representing the water levels through time show no significant uniform change from pumping season to non pumping season. Additionally, the depth to water measurements show no significant increase or decreasing trend through time.

Theoretical drawdown was calculated using the Theis method. The following numbers were used:

Saturated Thickness – 228 ft Hydraulic Conductivity – 40ft/d Transmissivity – 9120 ft2/d Pumping rate – 1000 GPM

Radial distance to nearest domestic well: 1300 ft

Storativity - .13

Time – 26.47 days (time to pump 117 AF at 1000GPM non-stop)

The theoretical calculation resulted in 1.9 ft of drawdown at day 26

#### **Water Quality**

Down to 90 feet below land surface, chlorides in the contaminant plume range from 9 ppm at IW37108 to 610 ppm at EB5A. Average concentration in 2015 in the upper portion of the aquifer in the IGUCA is approximately 200 ppm (Figure 4).

Chloride concentrations within 1.3 miles of the proposed point of diversion range from 8.5 ppm at well P32 to 610 ppm at well EB5A (Graphs 2 and 3). Chloride concentrations have been decreasing since 1980.

Wells completed in the upper level due to higher concentration in lower levels must be cautious of intercepting deeper waters from the principle of upconing. The effects of completing a well above a higher chloride concentration can be seen in Graphs 4 and 5.

**Burrton Chloride Plume** 

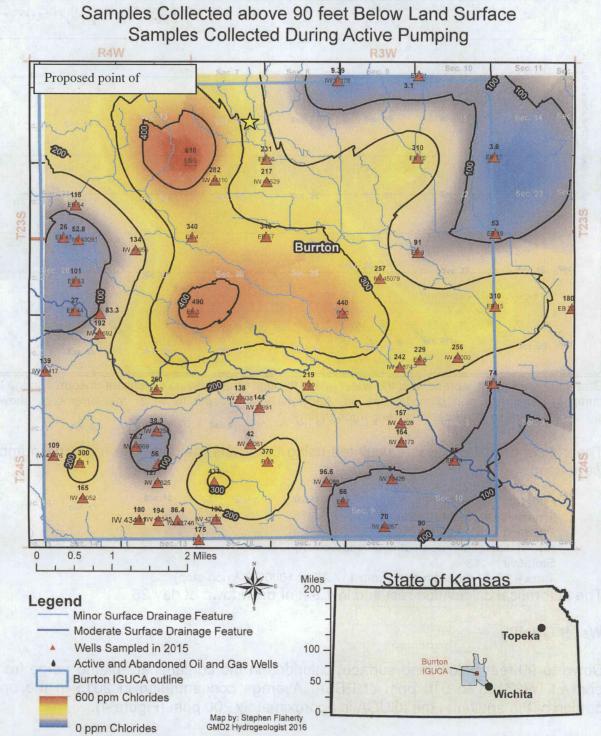
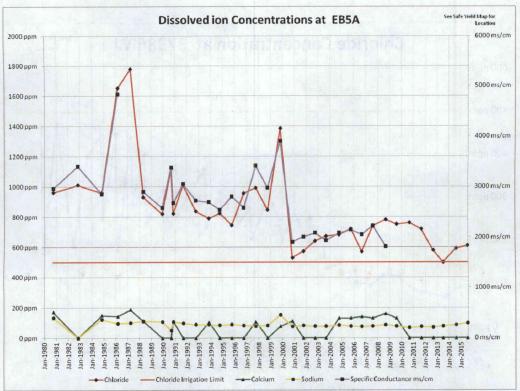
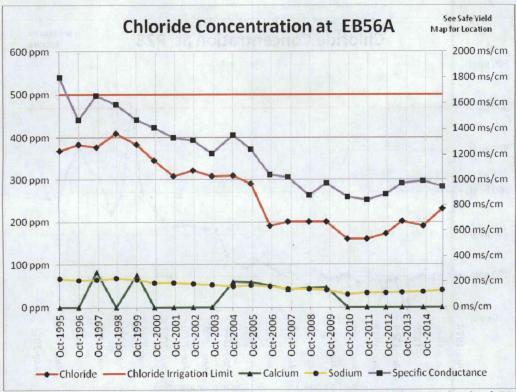


Figure 4. Outline of Burrton IGUCA in light blue and chloride contamination area from the water table to 90 feet below land surface. This map was created from 2015 data.

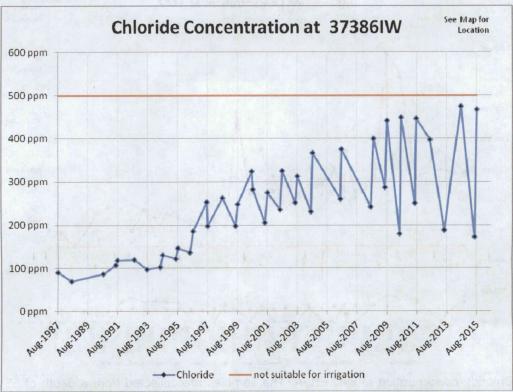


Graph 2. Chloride concentration at well EB5A. The samples are collected from a depth of 55 feet. The decreasing chloride concentration indicates that this observation well is upgradient of the plume. A higher chloride concentration would likely be found down gradient from EB5A.

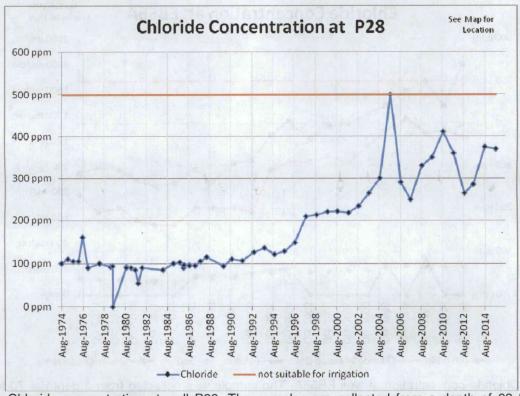


Graph 3. Chloride concentration at well EB56A. The sample was collected from a depth of 70 feet. The declining trend suggests that the chloride plume is moving away from the sampling point and therefore may be upgradient.

RECEIVED



Graph 4. Chloride concentration at well 37386IW. The sample was collected from a depth of 52 feet. Large swings in concentration are likely due to upconing underlying higher salinity waters. The increasing chloride concentration indicates that this observation well is downgradient of the plume.



Graph 5. Chloride concentration at well P28. The samples are collected from a depth of 63 feet. The increasing chloride concentration is likely a result of 37386 pumping.

## Burrton IGUCA Chloride Concentrations in Upper 90 Feet (top label indicates 2015 reading in PPM)

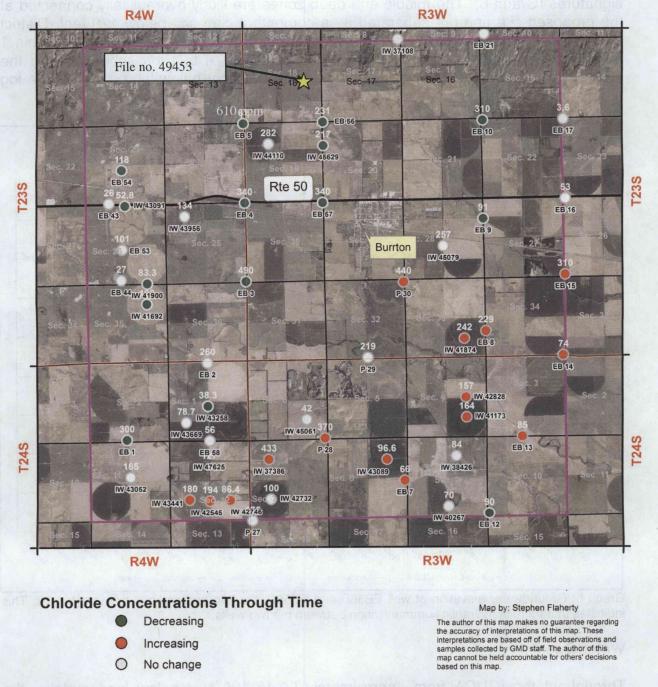


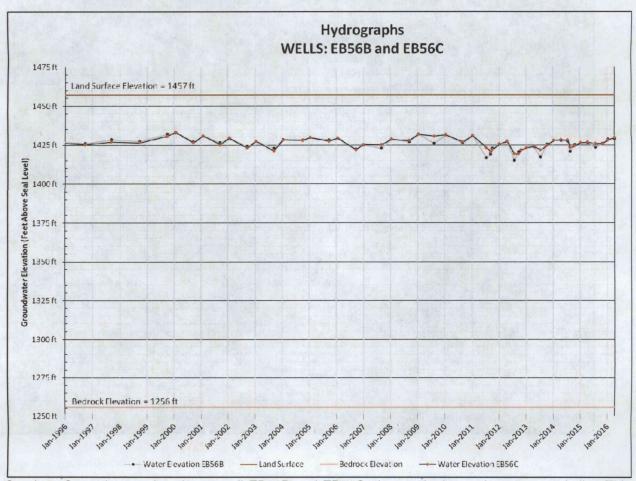
Figure 5. Outline of Burrton IGUCA and location and chloride trends of wells completed in the upper 90 feet of the aquifer.

WATER RESOURCES RECEIVED

#### Middle/Deep Zone

#### **Water Levels**

Water level records in the middle and deep zones at this location have similar signatures (Graph 6). The middle and deep zones are likely hydraulically connected at the proposed site and not separated by a competent clay unit below 120 feet. District staff have measured water levels in the middle and deep zone of the aquifer within 1 mile of the area at two observation wells since 1986. A test log submitted with the application indicates a 35 foot clay unit starting at 36 feet below land surface. The log stops in a 5 foot clay interval at 114 feet below land surface.



Graph 6. Groundwater elevation at well EB56B and EB56C. the two hydrographs are very similar. This indicates that there is hydraulic communication between the two wells.

#### **Water Quality**

Throughout the IGUCA from approximately 90 to 120 feet below land surface, the contamination can be found in concentrations ranging from 4 ppm at EB21 to 1360 ppm at EB4. Average concentration throughout the IGUCA in the middle interval is approximately 800 ppm (Figures 6 and 7). As of 2015 chloride concentrations at well EB 56B are at 65 ppm (Graph 7) and have been increasing by 2.5 ppm/yr on average. Below 120 feet below land surface, chloride samples are limited in the area of interest.

IUN 27 20th

#### **ATTACHMENT A: Letters from applicants:**

WATER RESOURCES RECEIVED

FEB 2 5 2016

Attn Alex Whitesell REDEPTOFAGRICULTURE
REGSONS oposing 49-539

GILING W overspray atricia A

> WATER RESOURCES RECEIVED

#### Keith and Ginger Bauer 931 N Wheatstate Road Box 181 Burrton, Ks. 67020

Alex,

This letter is to inform you of our desire for you not to grant the application 49,539 in which Verle Holdeman wishes to install an irrigation system. Our reasons to oppose this are:

- 1. We built our house 3 years ago with the intent to live there the rest of our lives. The outside is made of brick and stone. We have to have them sprayed every 5 years to help preserve the stone for years to come. With summer winds from the south the rust water from the overspray getting onto these stones will shorten their lifespan and/or cause us to treat them more often to protect them. This comes at a cost to us of \$5000 per treatment.
- 2. We have outdoor playsets, grills, patio furniture, and pool equipment that will be affected by the overspray as well. This will shorten these items lifespan as well.
- 3. The recent drought has caused our concern over the falling water table. If approved, the irrigation system will undoubtedly lower the water table even further.

We want to be friendly neighbors and hope there is a resolution that is fair to all involved. If you have any questions you can reach us at 620.463.2830 or my cell number is 620.727.3792.

Sincerely,

Keith Bauer

WATER RESOURCES RECEIVED

MAR 07 2016

KS DEPT OF AGRICULTURE

SCANNED

WATER RESOURCES RECEIVED

10N 2 7 2016

CHMMADS

2-24-16 Dear Mr. Whiteself In regards to File No. 49, 539 We have formed our spound since 1978. We are displand and tast brailer no mand & allatyou wage we planted. We do not want our found our buly hood put in jeropard by this massive amount of water taken from the area. Set alone putting domestic well in dange. Share always wondered why big trigates have the right to use etou anominal his is the second time a new owner of this piece has asked for this punit. Once again we have to hand In our survival. We were I gustest and I protest loudly! WATER RESOURCES RECEIVED KSDEPTOFAGRICULTURE

WATER RESOURCES
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	WAI ERIRESQUECES RECEIVED FEB 2 5 2016  KS DEPT OFAGRICULTURE	
already there is a circle drigeron on mile South of use when he is using it you can see my farm land drope the my suandshildre the house a fast than dehildrens water fust to have a fast fix to raise a crop of corne we need to get back to raise a crops of corne	At year a pleasure to take toy on the phone the 12 2016. In the phone the 22 2016. In the went than the said and the said was a served in the said that section of land. In years I was full bleased Shawner She all was full bleased Shawner is a safe was the project of the project we naive that water in the persual use the said who insight own the party of this is a saft was water in the persual use the said was a saft was water in the said who every that water in the said who every that water in the said who every that who every the said who	

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WATER RESOURCES RECEIVED

SCANNED KS DEPT OF AGRICULTURE

49,539

ATTACHMENT B: Drillers log submitted with application.

. . . .

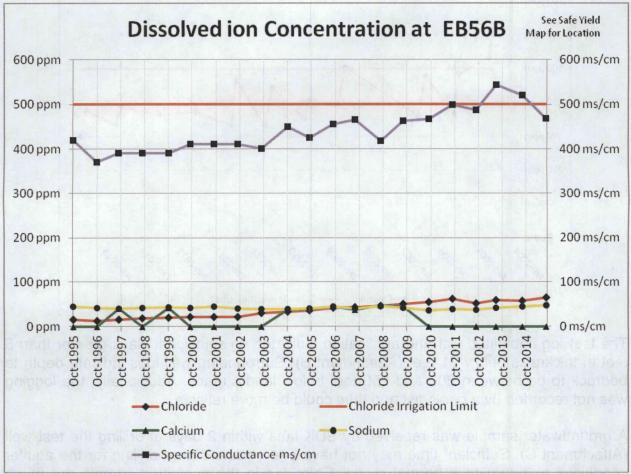
IRRIGATION TEST WELL			
Driller & Assistant: LOGAN AND TYLER	Date: 6/23/2015		
	W. 1st HALSTEAD KS . 67056		
LOCATION: 1 mile west and 1 mile north of Burrton, KS			
☐ Casing 2-1/2"       ☐ Quarters       ☐ 3         ☐ Couplings, 2-1/2"       ☐ Water       ☐ 2         ☐ End Caps, 2-1/2"       ☐ Lime       ☐ 5	Gas & Oil - W.T.  ☐ 6" or 5" Liner if needed  8/4" Polyethylene  ☐ Solvent & Glue  2-1/2" PVC Tee  ☐ Water Sample Bottle  5" & 6" Bits  ☐ Inspection Sheet  Packing		
Depth: Formation:	Well Information:		
0-3' top soil	Static Water Level: 38 approve		
3-4 Clay savoy	Est. production: 300-600 gen		
4-21 SAND COTARSE	Casing depth: 0-98		
21-31 CLAY DAN	Screen depth: 90-/10		
3/36 SAND FIRE- medium	Slot size: 5 An cut		
36-71 Clay Geen W/ small grange			
71-75 SAND FINE	Number of bags: 2		
75-80 Clay GREY	Nearest Contamination: AUMO		
85-114 SAND FINE to media	within 14 male		
114-125 Clay Booms	Maintenance & Safety:		
	Notes:		
Directions:			
Latitude: 38.0510061 N decimal degr	rees (ex. 38.881796)		
Longitude -97.6891243S W decimal deg	rees (ex. 95.373889)		
Datum: ☐ NAD27 ☑ NAD83 ☐ WGS84			
1461	80		
	X / ZO /ft. Well		
Sec. 18   T 23   R 3   W/D   5 1	Good /Grout		
	/Test Pumping // Water Sample		
	UsiNe /Mobilization/Travel		
Con	tract Received: 6/17/15		
W I N E Invo	pice #: 1137		
Date	e Mailed:		
Wel	Il Data: Access: WATER RESOURCE		
S Mat	terials: Incent: N/A RECEIVED		
	JAN 1 9 2016		

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**AGENDA ITEM 8a** 

Throughout the District, chloride concentrations have ranged from 1063 ppm at IW8 to 6.3 at EB7 in the lowermost zone. Average concentration in the lowest zone is approximately 500 ppm (Figure 8).



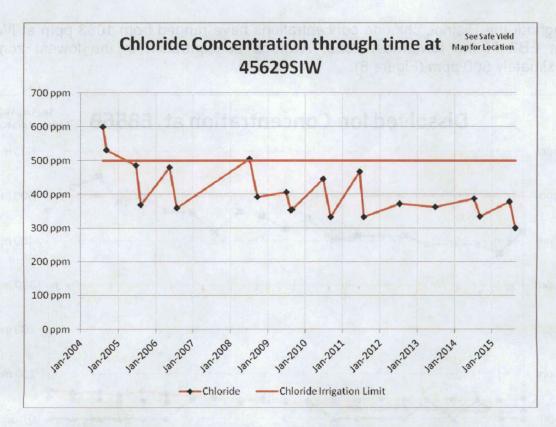
Graph 7. All dissolved ions are within normal range and specific conductance is within the acceptable range of 50 to 50,000 ms/cm for groundwater.

District staff have measured water levels in the middle zone of the aquifer at well EB 56B, which is within 3100 feet of the proposed point of diversion, since 1995. EB56B is not downgradient of a maximum contamination zone. The nearest maximum contamination zone is to the southwest of the proposed point of diversion.

The 610 ppm plume is moving towards the proposed point of diversion. The probability of the proposed point of diversion affecting the nearby plume (Figures 6 and 7) and its migration is unclear. However, the cone of depression is assumed to have no greater impact than 1.9 feet of drawdown at 1300 feet from the pumping location according to the theoretical drawdown calculation. Nearby irrigation well 45629 appears to be affected by a nearby maximum contamination zone as demonstrated by increased chloride concentrations during extended pumping (Graph 8).

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**AGENDA ITEM 8a** 



The test log submitted with the application indicates no significant clays greater than 5 feet in thickness below 71 feet (Attachment B). Surrounding well logs indicate depth to bedrock to be between 200 and 250 feet below land surface. Additionally, the logging was not recorded by a geologist and thus could be more reliable.

A groundwater sample was received by SDK labs within 2 days of drilling the test well (Attachment C). Sufficient time may not have been granted after drilling for the aquifer conditions to return to a normal range. Chlorides in the submitted sample are much lower than nearby observation wells (Graphs 2 and 3).

Generally, the deep zone has been avoided to prevent the acceleration of downward migration of the plume. Additionally, at the proposed point of diversion, chlorides are likely at or have exceeded the 500 ppm concentration. Pumping in this zone is not advisable and will likely accelerate the downward migration of the plume.

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#### Burrton Chloride Plume Samples Collected in Middle Zone of Aquifer Samples Collected During 2015 Irrigation Season

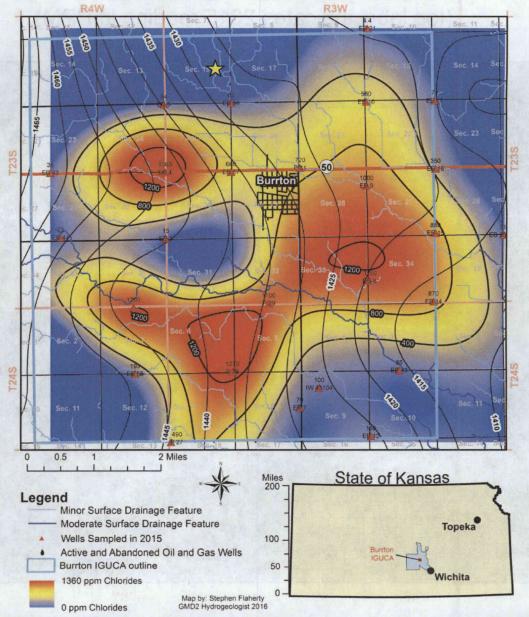
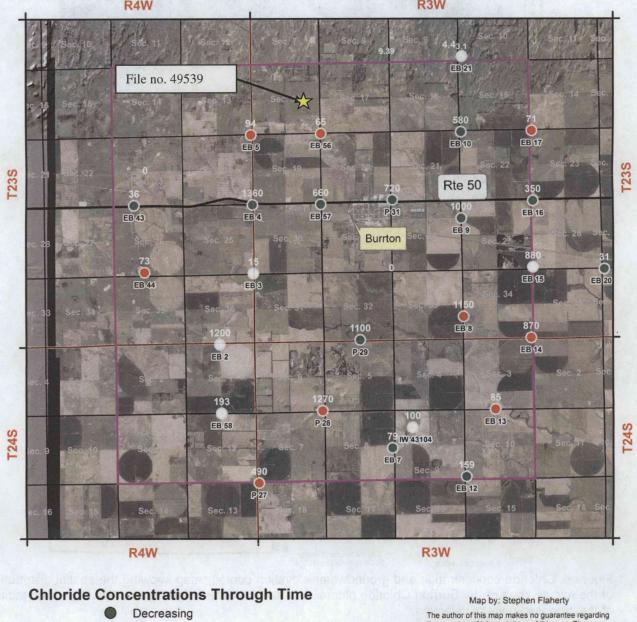


Figure 6. Chloride concentration and groundwater elevation contour map showing the spatial distribution of the middle zone of the Burrton Chloride plume. A 'hotspot' is present to the southwest and upgradient of the proposed point of diversion.

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# Burrton IGUCA Chloride Concentrations in Middle Zone approximately 90 to 120 feet below land surface (top label indicates 2015 reading in PPM)



Increasing

O No change

The author of this map makes no guarantee regarding the accuracy of interpretations of this map. These interpretations are based off of field observations and samples collected by GMD staff. The author of this map cannot be held accountable for others' decisions based on this map.

Figure 7. Chloride trends within the Burrton IGUCA from samples collected up to the year 2015. The application is in an area with increasing chloride concentrations.

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ATTACHMENT C: Water quality sample collected from test drilling (arsenic not sampled)

TUUU GUTEY MUAU P.O. Box 886 Hutchinson, KS 67504-0886 620-665-5661 FAX: 620-665-0559 TOLL FREE: 877-464-0623 www.sdklabs.com

Sample # 3233.15

Sample: Water Verle Holdeman well

Other ID: 6/24/2015

Date Received: 06/26/2015 Date Reported: 07/01/2015 Total Fee: 35.00

PETERSON MCNETT DRILLING PO BOX 207 LINDSBORG, KS 67456

**ANALYSIS** 

	Dry Basis	As Received	
++pH - SM 4500-H+ B	Pry Basis	As Received 7.79 9.99 178 Less than 1.0 59.50 7.13 22.10 50.00 25.00 0.719	s.u. mg/L mg/L mg/L mg/L mg/L mg/L
++Electrical Conductivity - SM 2510B .  TDS-Total Dissolved Solids - Calculated .  Irrigation Quality Rating .  Light Soil - Salinity Hazard .  Light Soil - Solium Hazard .  Medium Soil - Salinity Hazard .  Medium Soil - Solium Hazard .  Medium Soil - Solium Hazard .  WATER R	EIVED	364 258 AS FOLLOWS Low Low	umhos/cm mg/L

\*\*No sample time listed.

MS DEPT OF AGRICULTURE

### Application Map - File No. 49,539



I declare that all water wells or diversion sites using the same source of supply and within 1/2 mile of the proposed point of diversion have been plotted on the application map.

Signature	Date		
New Application  Application No To Change:  Point of Diversion	Water wells within 1/2 mile of proposed point of diversion include: (type use, owner, address)  1) See Attacked		
Place of Use Use Made of Water	2) WATER RESOURCES RECEIVED		
Proposed Point of Diversion  Existing Points of Diversion  Proposed Place of Use	JAN 1 9 2016 SCANNED KS DEPT OF AGRICULTURE		
Authorized Place of Use	Completed By GMD2 Stat		

